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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,626	08/22/2003	Yuhyeon Bak	122988-05007284	8022
43569	7590	03/24/2006	EXAMINER	
MAYER, BROWN, ROWE & MAW LLP 1909 K STREET, N.W. WASHINGTON, DC 20006			ELMORE, REBA I	
			ART UNIT	PAPER NUMBER
			2189	
DATE MAILED: 03/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/645,626	Applicant(s) BAK ET AL	
	Examiner Reba I. Elmore	Art Unit 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/22/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-7 are presented for examination.

DRAWINGS

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. These figures are described as 'conventional' on page 4 of the specification. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Figures 5A-5C have not been described in the 'Brief Description of the Drawings'. Either the Figures must be renumbered or the description of these figures amended within the specification, pages 4-11.

SPECIFICATION

4. The abstract is objected to as not having proper content for an abstract for an application. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means"

and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract is not clear nor concise but has language which is confusing and convoluted. Correction is required.

5. The specification is objected to because the drawings show Figures 5A-5C and not a Figure 5. The disclosure must be amended to match the figures which were filed with the application or the figures must be renumbered.

6. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-7 are rejected under 35 USC 102(b) as being anticipated by Schultz et al.

9. Schultz teaches a data reorganization method in a RAID system using a striping technique comprising the steps of:

(a) determining whether an additional disk exists in a storage medium of the system as a hot plug interrupt which is set when the number of physical disks in one of the disks arrays is changed whether it is a determination of an added disk or a disk being removed (e.g., see col. 16, lines 1-32);

(b) checking whether there exists any data stored at a reorganization-requested location for a disk write operation if there exists the additional disk (e.g., see col. 26, lines 15-59 and col. 10, lines 11-53); and,

(c) moving a reorganization-requested data to the reorganization request location if there is no data stored in the reorganization-requested location as when a new disk is added a posting cache is used to save data to be transferred from the source volume to the destination volume (e.g., see col. 8, lines 35-56 and Figure 2B).

As to claim 2, Schultz teaches the method wherein if it is determined in step (b) that there is data stored in the reorganization-requested location, a requested disk write operation block is stored in sequence in the added disk starting from an end portion thereof and wherein the method further comprises the step of updating the physical information stored in the added disk to the requested block information of the reorganization table (e.g., see col. 8, line 6 to col. 9, line 9 and col. 12, line 43 to col. 13, line 11).

As to claim 3, Schultz teaches the method further comprising the steps of repeatedly calculating write blocks in a chain reaction affected by the requested block after the updating process is completed and investigating a block which has undergone the chain reaction reorganization process as using a write posting cache and updating units in a sequential manner (e.g., see col. 8, lines 35-56);

moving the investigated block to the added disk and reflecting physical information for the movement to the reorganization table as continually scanning the status information related to the reconfiguration process (e.g., see col. 6, lines 34-50); and,

calculating a block to be moved to an original location of the block stored in the added disk, moving the calculated block to the location and reflecting physical information for the movement to the reorganization table as progress information which is used to complete or even resume the reconfiguration process (e.g., see col. 6, lines 25-50).

As to claim 4, Schultz teaches the block movement operation process is conducted until the reorganization of the requested write operation block is terminated as progress information which is used to complete or even resume the reconfiguration process (e.g., see col. 6, lines 25-50).

As to claim 5, Schultz teaches a lock function is utilized in case the reorganization table is modified in order to provide a multiple user service to prevent another host request from accessing the same sectors (e.g., see col. 18, lines 50-65).

As to claim 6, Schultz teaches the reorganization table is initialized for all the information stored in the disk after the step (c) is conducted or at an early time when a disk additional operation occurs as there being a set configuration which does not store the data in the logical volume prior to the reconfiguration (e.g., see col. 10, lines 11-45).

As to claim 7, Schultz teaches a free space manager manages free space in the added disk in order to store the block for which the write operation is requested from an end portion of the added disk (e.g., see the summary of the present invention col. 2, line 36 to col. 3, line 31).

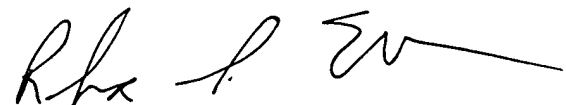
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CONCLUSION

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on Monday or Wednesday from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2189, Reginald G. Bragdon, can be reached for general questions concerning this application at (571) 272-4204. Additionally, the official fax phone number for the art unit is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2189

Friday, March 17, 2006
